Table 3.7-11 Roadway LOS Significant Effects, Post-Bridge Operation

Roadway Segment	2007 Volume	2007 LOS	2025 Volume	2025 LOS
Auburn-Folsom Road – Douglas Boulevard to Eureka Road	34,300	F	51,700	F
Auburn-Folsom Road – Eureka Road to Oak Hill Drive	30,500	F	48,400	F
Folsom-Auburn Road – Oak Hill Drive to Folsom Dam Road	40,300	F	54,100	F

Source: Corps 2006

The CCAO BRP has the same anticipated construction start year as the Raw Water Pipeline Bypass Project. Traffic-related increases and impacts related to construction and operation of the CCAO BRP would add a minimal amount of vehicle trips to the local roadways in the project vicinity.

Construction of the Raw Water Pipeline Bypass Project is expected to start in the mid-to late-summer of 2009. During construction, overlap periods between the CCAO BRP and Bypass Pipeline Project, there would be approximately 185-200 trips per day along study area roadways. This would result in a combined increase in ADT of 0.6 to 0.7 percent. This is a minimal increase and would not result in significant impacts during the 5-6 month potential overlap between these projects.

In order to minimize cumulative impacts there would be close coordination on traffic and circulation issues between the lead agencies on all area projects. Due to these factors, the Proposed Action is not expected to contribute to any cumulatively considerable traffic impacts.

3.8 Noise

This section describes the affected environment and environmental consequences for noise. Noise includes any unwanted or objectionable sound. Increasing noise levels may cause adverse effects to humans and their environment. Noise impacts are associated with construction activities (short-term) and operations (long-term) of facilities.

3.8.1 Regulatory Setting

Most jurisdictions have adopted noise standards for both transportation and non-transportation noise sources in the Noise Elements of their General Plans. It is also appropriate to consider Federal and State traffic noise impact assessment criteria to evaluate haul truck noise impacts.

Federal Regulations

The United States Code of Federal Regulations Part 772 (23 CFR 772), "Procedures for Abatement of Highway Traffic Noise and Construction Noise," establishes standards for mitigating highway traffic noise. The Noise Control Act of 1972 gives the USEPA the authority to establish noise regulations to control major sources of noise, including transportation vehicles and construction equipment (FHWA 1995). Later guidance, issued by the Federal Highway Administration (FHWA), including the Highway Construction Noise Handbook, updates the original techniques and methodology used to identify the impacts of and mitigation approaches appropriate for construction-related noise (FHWA 2006).

The USEPA guidelines suggest that on average, the residential outdoor noise level should be no more than 55 dBA, and the indoor level should be no more than 45 dBA, in order to protect against sleep disturbances, communication disruption, and hearing damage. The indoor level also applies to school, hospitals, and libraries. There are no guidelines that have been set for other areas (USEPA 1974).

The Federal Highway Administration (FHWA) established noise abatement criteria (NAC) in 23 CFR Part 227. These noise standards are based on specific land use categories and one-hour average L_{eq} noise levels. Table 3.8-1 presents these criteria.

Table 3.8-1. Federal Highway Administration Noise Abatement Criteria (NAC)

Activity Category	L_{eq} (1hr)[1] (dBA)	Description of Activity Category
A	57 (exterior)	Lands on which serenity and quiet are of extreme significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve intended purpose
B	67 (exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	--	Undeveloped lands.
E	52 (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Source: 23 CFR Part 772

[1]No single hourly average L_{eq} in a 24-hour day can exceed this value.

Land uses along the local haul and access routes, as described in Section 3.7 (Transportation and Circulation), are predominantly Activity Category B and C, and, to a lesser degree, Activity Category E (i.e., residential). The FHWA noise standards indicate that noise mitigation must be considered when the Horizon Year project levels approach or exceed the stated NAC. In the case that Future-Year or Horizon-Year project levels "substantially exceed existing noise levels, FHWA standards mandate mitigation. The Caltrans Traffic Noise Analysis Protocol (2006) defines "approach the noise abatement criteria" (23 CFR 772.5(g)) as 1 dBA below the NAC

and defines "substantially" as a predicted incremental impact equal to or greater than 12 dBA over existing noise levels.

23 CFR 772 requires that construction noise impacts be evaluated for all projects that fall under its jurisdiction (defined as Type I projects, new construction or reconstruction projects; and Type II projects, retrofit noise abatement projects). To perform an assessment of construction noise, land uses or activities that may be affected by construction noise from the project should be identified. While the regulations do not specify specific methods or abatement criteria for evaluating construction noise, Caltrans guidance states that a reasonable analysis method such as FHWA Roadway Construction Noise Model (FHWA 2006, the model is a windows-based screening tool that can be used to predict construction noise during various stages of project development and construction) should be used to determine construction induced noise impacts on land uses or activities in the project area (Caltrans 2006).

State Regulations

The State of California does not regulate noise directly. The State's General Plan Guidelines dictate the preparation of general plans and noise ordinances at the city and county level. County general plans are required to include a Noise Element (State of California Government Code Section 65302 (f)).

Community Regulations

Existing conditions and community tolerance for noise dictate the normally acceptable community noise exposure, which is a term the State uses to specify satisfactory land uses in relation to noise exposure. Other terms used by the State are:

- Conditionally Acceptable: Prior to development, a detailed noise analysis should be prepared. Noise insulation should be included in the design.

- Normally Unacceptable: Construction should be discouraged. If development occurs, proper noise reduction should take place.

- Clearly Unacceptable: No construction or development should occur.

Table 3.8-2 displays land use categories and community noise exposure.

Table 3.8-2. Noise Compatible Land Use Planning

Land Use	Community Noise Exposure			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential-Low Density Single Family, Mobile Homes	50-60	55-70	70-75	75+
Residential-Multi-Family	50-65	60-70	70-75	75+
Transient Lodging-Motels, Hotels	50-65	60-70	70-75	75+
Schools, Libraries, Churches, Hospitals, Nursing Homes	50-70	60-70	70-80	80+
Auditoriums, Concert Halls, Amphitheaters	N/A	50-70	N/A	65+
Sports Arena, Outdoor Spectator Sports	N/A	50-75	N/A	70+
Playgrounds, Neighborhood Parks	50-70	N/A	67-75	72+
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50-75	N/A	70-80	80+
Office Buildings, Business	50-70	67-77	75+	N/A
Industrial, Manufacturing, Utilities, Agriculture	50-75	70-80	75+	N/A

Source: Adapted from State of California Governor's Office of Planning and Research 1998

Jurisdictions in the study area also regulate noise generated by transportation sources according to land use. All of the jurisdictions along the haul routes have adopted a maximum L/CNEL noise limit of 60 dBA for residential land uses, with a potential allowable L/CNEL exceedance level of 65 dBA, in the case that 60 dBA is not practical in a situation given the application of the best-available noise reduction measures. Some of the jurisdictions have adopted a maximum L/CNEL noise limit of 70 dBA for playgrounds and parks. Table 3.8-3 summarizes these standards for all of the relevant jurisdictions.

Table 3.8-3. Local Government Transportation Noise Standards (dBA)

Noise Element Jurisdiction/Land Use Category	Maximum Allowable Noise Levels	
	Exterior L_{dn}/CNEL[1]	Interior L_{dn}/CNEL
Sacramento County		
Residential Areas	60	45
Placer County and Granite Bay Community[2]		
Residential areas	60	45
Commercial areas	--	
Other sensitive areas – Parks	70	
Other sensitive areas: hospitals, nursing homes, churches, transient lodging	60	45
City of Folsom		
Residential areas including single- or multiple-family residence, school, church, hospital, or public library	60	45

Source: Reclamation 2006
Notes: [1]The jurisdictions along the haul routes with standards for transportation noise impacts have adopted a maximum L_{dn}/CNEL noise limit of 60 dBA for residential land uses, with a potential allowable L_{dn}/CNEL exceedance level of 65 dBA, if 60 dBA is not practicable, in a situation given the application of best-available noise reduction measures.
[2]Interior spaces worst-case one hour L_{eq} noise standards of 35-45 dBA have been adopted for theaters, auditoriums, music halls, churches, meeting halls, office buildings, schools, libraries, and museums.

County and Local

All jurisdictions where construction or truck hauling would occur have adopted local ordinances regulating noise levels in order to minimize impacts on sensitive land uses. Such local standards have been established for both non-transportation and transportation noise sources. Table 3.8-3 lists the transportation noise standards in those jurisdictions where actions may involve trucks hauling materials. Each jurisdiction's noise ordinance is described in more detail below:

Placer County (including Granite Bay Community) Noise Ordinance

The Placer County Code (Chapter 9, Article 9.36) establishes sound limits for sensitive receptors. The ordinance specifies that is unlawful to create a sound that:

- Causes the exterior sound level when measured at the property line of any affected sensitive receptor to exceed the ambient sound level by five dBA.
- Exceeds the sound level standards, whichever is greater.

The County's sound level standards are summarized in Table 3.8-4.

Table 3.8-4. Placer County Sound Level Standards

Sound Level Descriptor	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly L_{eq}, dB	55	45
Maximum level, (L_{max}) dB	70	65

Source: Placer County Code, Article 9.36

In their General Plan, the county also adopted noise standards specific to non-transportation construction activities. These standards (Table 3.8-5) are based on maximum allowable L_{dn} noise levels.

Table 3.8-5. Placer County Non-Transportation Noise Standards, dBA

Receptor Area	L_{dn}
Residential Adjacent to Industrial	60
Other Residential	50
General Commercial	70
Heavy Commercial/Industrial Park	75
Recreation and Forestry	70
All Land uses interior allowable noise level	45

Source: Adapted from Placer County 1994

Placer County's noise standards are designed to protect against the development of new noise-sensitive uses where the noise of non-transportation sources will exceed the noise level standards. The Proposed Action would not be creating a new noise-sensitive use. The County's General Plan also states that noise produced by blasting or other impulsive noises should not be subject to the criteria listed in Table 3.8-5 (Placer County 1994).

Sacramento County General Plan Noise Element

Sacramento County adopted the standards listed in Table 3.8-6 for non-transportation related noise and its impact on residential areas.

The Sacramento County Noise Element is applicable to new sources of transportation and non-transportation noise. The Proposed Action would not be creating a new source of either transportation- or non-transportation-related noise.

Table 3.8-6. Sacramento County Non-Transportation Noise Standards

Maximum Allowable Exterior Noise Levels					
Daytime 7 a.m. – 7 p.m.		Evening 7 p.m. – 10 p.m.		Nighttime 10 p.m. – 7 a.m.	
Hourly		Hourly		Hourly	
L_{50}	L_{max}	L_{50}	L_{max}	L_{50}	L_{max}
50	70	50	70	45	65

Source: Sacramento County General Plan, Noise Element 1993

City of Folsom Noise Ordinance

The City of Folsom's noise ordinance (Chapter 8.42, Section 8.42.040) establishes exterior noise level standards and interior noise level standards. Tables 3.8-7 and 3.8-8 list these standards.

Table 3.8-7. City of Folsom Exterior Noise Level Standards, dBA

Noise Level Category	Cumulative Number of minutes in any 1-hour time period	dBA Daytime (7 a.m. to 10 p.m.)	dBA Nighttime (10 p.m. to 7 a.m.)
1	30	50	45
2	15	55	50
3	5	60	55
4	1	65	60
5	0	70	65

Source: Folsom Municipal Code

The City of Folsom exempts construction activities provided that construction does not take place before 7 a.m. or after 6 p.m. during weekdays and before 8 a.m. or after 5 p.m. on weekends. For this analysis, effects on noise during construction would be considered significant is construction activities exceed the noise ordinance standards for construction outside of the hours of the hours allowed by the noise ordinance. Maximum noise levels not to be exceeded are 70 dBA before 10 p.m. and 65 dBA after 10 p.m.

Table 3.8-8. City of Folsom Interior Noise Level Standards, dBA

Noise Level Category	Cumulative Number of minutes in any 1-hour period	dBA Daytime (7 a.m. to 10 p.m.)	dBA Nighttime (10 p.m. to 7 a.m.)
1	5	45	35
2	1	50	40
3	0	55	45

Source: Folsom Municipal Code

Vibration

In association with noise levels and analysis of the impacts of construction noise, ground vibration can have a significant effect on persons and fragile buildings. Construction activities have the potential to produce vibration levels that may be annoying or disturbing to humans and may cause damage to structures. Vibration from construction projects is caused by general equipment operations, and is usually highest during pile driving, soil compacting, jack hammering, and construction related demolition and blasting activities. For the Proposed Action, activities that would cause vibration include, earthmoving activities, jack hammering, compaction, and construction related demolition activities.

Measurements of vibration are expressed in terms of the peak particle velocity (PPV) in the unit of inches per second. The PPV is the maximum velocity experienced by any point in a structure during a vibration event. It is an indication of the magnitude of energy transmitted through vibration. PPV is an indicator often used in determining potential damage to buildings from stress associated with blasting and other construction activities.

Table 3.8-9 summarizes the levels of vibration and the usual effect on people and buildings based on the U.S. Department of Transportation guidelines for vibration levels from construction-related activities.

Table 3.8-9. Summary of Vibration Levels and Effects on Humans and Buildings

Peak Particle Velocity (in/sec)	Effects on Humans	Effects on Buildings
Less than 0.005	Imperceptible	No effect on buildings
0.005 to 0.015	Barely perceptible	No effect on buildings
0.02 to 0.05	Level at which continuous vibrations begin to annoy people in buildings	No effect on buildings
0.1 to 0.5	Vibrations considered unacceptable for people exposed to continuous or long-term vibration	Minimal potential for damage to weak or sensitive structures

Table 3.8-9. Summary of Vibration Levels and Effects on Humans and Buildings

Peak Particle Velocity (in/sec)	Effects on Humans	Effects on Buildings
0.5 to 1.0	Vibrations considered bothersome by most people, however tolerable if short-term in length	Threshold at which there is a risk of architectural damage to buildings with plastered ceilings and walls. Some risk to ancient monuments and ruins.
1.0 to 2.0	Vibrations considered unpleasant by most people	U.S. Bureau of Mines data indicates that blasting vibration in this range will not harm most buildings. Most construction vibration limits are in this range.
Greater than 3.0	Vibration is unpleasant	Potential for architectural damage and possible minor structural damage.

Source: Michael Minor & Associates 2006

As illustrated in the table, the threshold of human perception is approximately 0.005 in/sec PPV, and the threshold amplitude at which annoyance can occur is approximately 0.02 to 0.05 in/sec PPV. The lower threshold of 0.005 in/sec is considered appropriate to evaluate annoyance caused by vibration in residential buildings, and 0.05 in/sec PPV is considered appropriate to evaluate vibration in commercial or office buildings.

3.8.2 Affected Environment

This section contains a description of the affected environment within the CCAO BRP construction area and along potentially affected roadways. The section also provides an explanation of noise descriptors, to provide the reader with an understanding of the basic noise concepts and terminology reflected in this analysis.

3.8.2.1 Noise Descriptors

There are many factors that affect one's perception of noise. These factors include pitch, loudness, and the character of the noise. The standard unit of sound amplitude measurement is the decibel (dB). Since the human ear cannot hear all frequencies, a special scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) de-emphasizes the low and high end frequencies and emphasizes those frequencies the human ear is able to hear.

The A-weighted dB scale (dBA) is the most widely used composite scale for environmental noise assessments. It is widely accepted that a 3 dBA change in sound level is barely detectable by human hearing.

Noise analyses and some regulations also use the following terms:

- L_{eq}: Equivalent energy level, A-weighted sound level corresponding to a steady-state sound level that contains the same total energy as a varying signal over a given sample period. This is typically computed over 1, 8, and 24 hour sample periods.

- L_{dn}: Day-night average level, an indicator consisting of a 24-hour average L_{eq}, with the addition of 10dBA added to the sound levels from 10:00 p.m. to 7:00 a.m., to account for heightened nighttime noise sensitivity.

- $L_{max:}$ Maximum Noise Levels, representing the highest sound level measured for a given period.

- L_{90} and L_{10}: Statistical Noise Levels, L_{90} is close to the lowest sound level observed during the measurement period. It is essentially the same as the residual sound level, which is the lowest sound level observed when there are no obvious nearby intermittent sources. L_{10} is close to the maximum sound level observed during the measurement period. It is sometimes called the intrusive noise level because it is caused by occasional louder noises like passing motor vehicles.

- CNEL: Community Noise Equivalent Level, a 24-hour average L_{eq}. that includes the addition of five dBA to sound levels from 7:00 p.m. to 10:00 p.m. and an addition of 10 dBA to sound levels from 10:00 p.m. to 7:00 a.m.

3.8.2.2 Area of Analysis

The Folsom Reservoir area is a unique land use and noise setting. The southern end of the reservoir is more of an urban locale with noise generated from the Folsom Prison shooting range and traffic along busy arterial roadways. The area of analysis transitions to a more rural character heading to the north of the reservoir where there is less human activity. Therefore, background noise levels are higher at the southern end of Folsom Reservoir and trend lower as one heads north on both sides of the reservoir. In addition, there are seasonal variations with the reservoir being an active site for recreational boating and jet and water skis activities during the summer, which tends to increase background noise levels. During the winter months, human and recreational activity is less; therefore, background noise levels tend to be lower (Reclamation 2006). However, in the immediate area of the project site, traffic noise along Auburn-Folsom Road is a major source of noise.

The noise analysis focuses on noise-sensitive receptors adjacent to the proposed construction site. Noise impacts associated with trucks hauling construction materials focus on noise-sensitive land uses along both local and regional roadways.

Regional roadways refer to potential routes for trucking soil and construction materials to the construction site. Regional routes potentially used by workers coming to the site are also included here. From the north, these routes include Interstate 80 to Douglas Boulevard to Auburn-Folsom Road. From the south, these routes include Interstate 5 and US-50 east to Folsom Boulevard to Folsom-Auburn Road.

Local roadways refer to roads in the vicinity of Folsom Dam that may be used for trucks hauling materials to and from the site, as well as workers traveling to and from the site during construction. Local haul routes (described in detail in Section 3.7, Transportation and Circulation) include the portion of Auburn-Folsom Road between Greenback Lane and Douglas Boulevard.

Noise-sensitive receptors and existing ambient noise levels are described in detail in Section 3.8.2.3 below.

3.8.2.3 Existing Noise Levels

Data provided in the USEPA Levels Document was used to define average ambient daytime and nighttime L_{eq} and L_{dn} noise conditions around the study site. The L_{dn} noise levels are based on the various land use descriptors. The daytime and nighttime L_{eq} noise levels were estimated based on the L_{dn} noise levels (Reclamation 2006). According to the USEPA, there is typically a 10-dBA change in noise levels between the daytime and nighttime. Table 3.8-10 presents a summary of the ambient noise levels for various land uses.

Table 3.8-10. Average Ambient Noise Levels for Various Land Uses

Land Use Description	Average L_{dn} (dBA)	Daytime L_{eq} (dBA)	Nighttime L_{eq} (dBA)
Wilderness	35	35	25
Rural Residential	40	40	30
Quiet Suburban Residential	50	50	40
Normal Suburban Residential	55	55	45
Urban Residential	60	60	50
Noisy Urban Residential	65	65	55
Very Noisy Urban Residential	70	70	60

Source: USEPA 1974

The most appropriate land use descriptors and noise levels to describe the study area near Folsom Reservoir range from “rural residential/quiet suburban residential” to “urban residential.”

The Folsom Lake State Resource Area Resource Management Plan (LSA 2003) describes that noise is an issue for visitors to Folsom Lake as well as for neighbors in

surrounding residential areas. Under current conditions, existing noise is the result of traffic backups at day use facilities, and from water-based activities on Folsom Lake. Noise from power boats and jet skis on the lake can travel great distances depending on atmospheric conditions and wind direction. "In addition, music coming from boats moored or floating in near shore areas does generate complaints from lakeside neighbors" (LSA 2003). For this analysis, the closest noise-sensitive receptors were identified from Reclamation's *Folsom Dam Raise/Folsom Bridge Draft Supplemental EIS/EIR* (Corps 2006). Figure 3.8-1 shows the five noise-sensitive receptor sites that are considered in the analysis for the proposed CCAO construction. Existing noise level data comes from field collections conducted for the Folsom Dam Raise/Folsom Bridge document and from traffic counts conducted by Fehr & Peers. All data is from 2005 (Fehr & Peers 2005, as cited in Corps 2006). For the Bridge document, results of traffic counts were used to develop appropriate vehicle compositions (percentages of automobiles, medium trucks, and heavy trucks) for the prediction model. Table 3.8-11 summarizes the existing conditions at each noise-sensitive receptor. Figure 3.8-1 shows the five receptor sites and their location relative to the proposed construction area.

Table 3.8-11. Noise-Sensitive Receptor Sites, Existing Conditions

Receptor Number	Location Description	Closest Distance to construction (feet)	Furthest Distance to construction (feet)	Peak-Hour Noise Level	24-hour Noise Level (CNEL)
1	At Building 700, Unit 707 of Lake Pointe Apartments, approximately 165 feet east of the centerline of Auburn-Folsom Road	460	1,042	62	58
2	North side of Building 800 at Lake Pointe Apartments, approximately 525 feet east of Folsom-Auburn Road centerline	388	933	50	56
3	At east side of Building 1200 of Lake Pointe Apartments, located just south of the existing tennis courts	358	748	50[1]	54

Source: Corps 2006
[1]Based on actual field noise measurements

As shown in Figure 3.8-1, Sites 1, 2, and 3 are residential receptors. Lake Pointe Apartments is a large complex to the south of the proposed construction site. In general, the major source of noise in the study area is motor vehicle traffic on Auburn-Folsom Road. Additional noise sources include local construction activities (from the New Folsom Bridge) and noise from boating and other recreation activities, primarily in the summer.

3.8.3 Environmental Consequences

This section evaluates the potential environmental consequences of construction traffic and construction site-related noise levels resulting from the proposed CCAO BRP. The results are compared to local, State, and Federal criteria discussed above.

The focus of the analysis is on potential temporary noise impacts to local noise receptors resulting from construction activities. The Proposed Action does not involve a change in onsite activities, land uses, equipment, or operations that generate substantial noise. Therefore, the project would not generate a change in long-term off-site noise levels.

Construction activities are expected to begin in October of 2009 and last approximately 27 weeks. Noise impacts (from construction-related traffic and construction equipment) were considered for three main phases of the project construction. These include; mobilization, demolition, and utility relocation; excavation, backfill, site grading, and utilities; and, building erection. During the first 26 days, it is estimated that materials would be hauled to the proposed construction site, while during the last 108 days, it is estimated that materials would be hauled away from the proposed construction site. Each of these proposed construction stages was analyzed for its potential noise impact on the noise-sensitive receptors identified above.

Noise impacts are evaluated based on the above-cited local noise criteria in the general plans of Placer and Sacramento Counties and the City of Folsom.

Figure 3.8-1
Noise Sensitive Receptors
Central California Area Office

CDM

3.8.3.1 No Action Alternative

Under the No Action Alternative, the CCAO BRP would not be constructed. There would be no changes in noise from the affected environment; therefore there would be no noise impacts.

3.8.3.2 Proposed Action

Potential sources of noise from the Proposed Action include both onsite construction and transportation-related noise from construction workers. Noise from construction would occur during the anticipated seven month period of construction that includes; mobilization, demolition, and utility relocation; excavation, backfill, site grading, and utilities; and, building erection. The noise sources would be located in areas that are already surrounded by existing sources of noise such as nearby traffic on Auburn-Folsom Road. Exact noise levels at nearby receptors would depend on construction phasing and the specific type of equipment that is used. Although construction noise levels can range from approximately 70 to 97 dBA at 50 to 100 feet from construction activities, these noise levels would be intermittent and temporary in nature.

Based on the short-term nature of this project, a qualitative evaluation of potential construction noise impacts was performed using the projected construction activities and schedule. Each construction phase would have the potential to generate short-term noise impacts. Typically, excavation activities, involving the use of excavators, backhoes, scrapers, and dump trucks tend to generate the highest noise levels. It is anticipated that these types of noise-producing construction activities would occur for approximately 7 months during the construction period.

Table 3.8-11 shows that the closest distance to construction, 358 feet, would occur at noise-sensitive receptor site 3. The furthest distance from construction would occur at noise-sensitive receptor site 1. The closest distance to construction represents the worst case scenario when construction activities would be taking place at the southwestern edge of the project footprint. The furthest distance from construction represents the mid-case scenario when construction activities would be taking place in the middle of the proposed construction footprint.

The midpoint noise-sensitive receptor sites are over 1,000 feet from the proposed construction site. Since noise levels decrease by 6 dBA every doubling of distance, peak construction noise at the closest receptor at sites 2 and 3 would range between 40 dBA to 77 dBA. These levels are similar to the existing ambient levels at the three noise-sensitive receptor sites described in Section 3.8.2. To minimize potential noise impacts, all construction work would occur during the daytime (7 a.m. to 5 p.m.) when background noise levels are higher, whenever feasible. Additionally, all construction equipment would be equipped with exhaust mufflers and regularly

maintained to minimize engine noise. Overall construction noise is expected to be minimal.

According to the traffic analysis in Section 3.7, the volume of traffic generated from construction equipment and worker commutes, as well as operational traffic, would be very low (an addition of approximately 0.2 percent) in relation to existing traffic volumes on Auburn-Folsom Road. Because it takes a doubling of traffic to increase noise levels by 3 dBA, the threshold of detectability, the noise generated by the relatively low volume of traffic would increase noise levels in the project area by considerably less than 3 dBA. Therefore, the project's construction traffic would have imperceptible noise impacts (Caltrans 1998).

3.8.4 Minimization Measures

No Minimization Measures are required.

3.8.5 Cumulative Effects

The projects with the possibility of overlapping with the Proposed Action are listed in Table 3.1-1. Projects with the potential to contribute to noise in the project vicinity include the Folsom Dam Safety and Flood Damage Reduction Project and the Raw Water Pipeline Bypass Project. As described above, the Proposed Action would have negligible noise impacts in the project vicinity. The Proposed Action would be implemented in close coordination with the lead agencies of projects taking place nearby. No cumulatively considerable noise impacts are expected with implementation of the Proposed Action.

3.9 Cultural Resources

This section presents the affected environment and environmental consequences for cultural resources.

3.9.1 Regulatory Setting

National Historic Preservation Act

The National Historic Preservation Act (NHPA) of 1966, as amended through 1992, establishes a program for the preservation of historic properties throughout the nation. The regulations for following the Section 106 process are found in 36 CFR Part 800. The State Historic Preservation Officer (SHPO) administers the national historic preservation program at the State level, reviews National Register of Historic Places (NRHP) nominations, maintains data on historic properties that have been identified but not yet nominated, and provides consultation for Federal agencies during NHPA Section 106 review. As the NEPA Lead Agency, Reclamation is responsible for compliance with Section 106 of the NRHP and must take into

account the effects of its undertaking on historic properties as defined in 36 CFR Part 800.16 (l).

National Environmental Policy Act
Under NEPA, (42 USC) Sections 4321-4327, Reclamation is required to consider potential environmental impacts and appropriate mitigation measures for projects with Federal involvement.

Reclamation Directives and Guidelines
Project undertakings by Reclamation must follow directives and guidelines found in Reclamation Manuals LND P01, LND 02-01, LND 10-07, and LND 07-01. LND P01 establishes policy and authority for cultural resource identification, evaluation and management of cultural resources. LND 02-01 provides directives and standards and clarifies the role of Reclamation regarding implementation of its cultural resources management responsibilities. LND 10-01 provides procedures for inadvertent discoveries of human remains on Reclamation lands. LND 07-01 provides procedures for inadvertent discoveries of cultural items that are under the authority of the Native American Graves Protection and Repatriation Act (NAGPRA).

3.9.2 Affected Environment

Cultural resource is a broad term that is intended to include prehistoric, historic, and traditional cultural properties. Cultural resources eligible for listing on the National Register are known as historic properties. The project area is known to have a variety of cultural resources, both of an archaeological and architectural nature. The cultural resources present in the area include evidence of prehistoric use as well as historic use. Within the project area, there are fifteen cultural resources that will be affected by the Proposed Action, all located within the CCAO Headquarters complex at the base of Folsom Dam.

3.9.3 Environmental Consequences

This section presents the environmental consequences of the Proposed Action and the No Action Alternative.

3.9.3.1 No Action Alternative

Under the No Action Alternative, the buildings at the CCAO Headquarters would not be removed and the new Maintenance Center and Administration Building would not be constructed. Under this alternative there would be no undertaking as defined by Section 301 of the NHPA and there would be no need to comply with Section 106 of the NHPA. The No Action Alternative would not affect cultural resources.

3.9.3.2 Proposed Action

The removal of fifteen buildings at the CCAO Headquarters and the construction of two new buildings is defined as an undertaking by Section 301 of the NHPA. The

removal process and new construction activities are considered types of activities that have the potential to affect cultural resources, which initiates the Section 106 process. Reclamation conducted a literature review of previous reports and found that all the known cultural resources within project's area of potential effect (APE) were previously evaluated for the National Register or have not yet reached the age of consideration as a historic property. Reclamation sent a Section 106 consultation letter to the California SHPO on December 22, 2008, identifying the fifteen cultural resources within the APE and evaluating them for the National Register. Reclamation determined that none of the resources were eligible for the National Register. Reclamation is currently awaiting SHPO concurrence and expects to receive it prior to signing the FONSI. There will be no affect to cultural resources as a result of the Proposed Action being implemented.

The area around Folsom Dam has been heavily modified from its original landscape. The construction of the Folsom Dam and the CCAO Headquarters has impacted archaeological resources while creating other cultural resources like the buildings and dam itself. Due to the multiple archaeological and architectural surveys in the vicinity of the APE, it is unlikely that any unknown cultural resources are present. Earth moving activities and other construction actions implemented as part of the Proposed Action would not be expected to affect any unknown or previously undiscovered cultural resources.

3.9.4 Minimization Measures

No minimization measures are required.

3.9.5 Cumulative Effects

The Proposed Action would not affect any known cultural resources and would be highly unlikely to uncover any previously unknown cultural resources; therefore there would be no cumulative effects.

3.10 Public Services and Utilities

This section presents the affected environment and environmental consequences for public services and utilities.

3.10.1 Regulatory Setting

Solid Waste

Under the jurisdiction of the California Environmental Protection Agency (California EPA), the California Integrated Waste Management Board is charged with managing solid waste. Title 14, Chapter 3, of the California Code of Regulations, addresses minimum standards for solid waste handling and disposal.

3.10.2 Affected Environment

Utilities

Water and sewer lines for the CCAO Headquarters are connected to the City of Folsom lines on Auburn Road. Electricity is provided by Sacramento Municipal Utility District (SMUD). Telephone and internet services are provided by SBC fiber-optic cables that use the existing SMUD 12 kV line. Hot water is heated by propane. CMI currently provides solid waste services.

Public Services

Police services for the Folsom Reservoir area are provided through a contract with the Sacramento County Sherriff's Department and by CDPR State Park Rangers. Fire services are provided by

While the majority of the land around Folsom Reservoir is owned by Reclamation, CDPR has an existing agreement with Reclamation to manage the recreation facilities at the Folsom Lake State Recreation Area and Lake Natoma. CDPR is generally responsible for maintenance of the recreation facilities, trails, roads, and parking lots surrounding Folsom Reservoir. Reclamation is responsible for all facilities at CCAO Headquarters as this area is not open to the public for recreation.

3.10.3 Environmental Consequences

This section presents the environmental consequences of the Proposed Action and the No Action Alternative.

3.10.3.1 No Action Alternative

Under the No Action Alternative, the CCAO BRP would not be implemented. No construction activities would occur. There would be no impacts to existing public services or utilities.

3.10.3.2 Proposed Action

There would be no affects to existing public services from the Proposed Action. Construction and operation of the new CCAO facilities would not affect CDPR or recreation at Folsom Lake State Recreation Area. The construction contractor would be responsible for providing security throughout construction. The construction contractor would also be responsible for implementing a Fire Management Plan to help prevent accidental fires. There would be no impacts to public services from the Proposed Action.

Construction for the Proposed Action would require excavation and grading. These earth-moving activities have the potential to damage buried utilities and could result in interruptions in service or pose health risks to construction workers and CCAO staff in the area. Additionally, some utilities may need to be relocated during construction. For example, a portion of the electrical duct bank would need to be relocated to accommodate the Maintenance Center building. Minimization Measure

UT-1, UT-2, and UT-3 would help to reduce or avoid potential impacts to existing utilities during construction activities.

While utility demands for the Proposed Action are currently unavailable, the Proposed Action would not result in an increase in Reclamation staff and is therefore not expected to greatly increase the demand for water, wastewater, electricity, or natural gas. The new buildings would be constructed to meet LEED standards and current Federal building codes. The utilities for the new buildings would tie in to existing utility lines to reduce the need for new infrastructure. Overall, the utility demands for the Proposed Action are expected to be met with existing utility contracts and infrastructure.

Construction and demolition activities may result in the temporary generation of solid waste. All salvageable materials would be recycled and the remaining waste would be disposed of at a licensed landfill with adequate capacity to receive the wastes. Because the number of Reclamation staff would not change under the Proposed Action, no increase in solid waste generation during operation is expected. Solid waste impacts associated with the Proposed Action are expected to be construction-related and therefore temporary and minimal.

3.10.4 Minimization Measures

UT-1: Locate Existing Utilities Prior to Construction
Prior to construction, existing utility providers will be contacted to obtain current information on any utilities in the area. Utilities will be verified using field surveys. All utilities will be marked with white paint or other suitable markings to alert workers of their locations. Hand tools will be used when digging is required in close proximity to any buried utilities.

UT-2: Emergency Action Plan for Accidental Damage to Utilities
The construction contractor will be required to develop and implement an emergency action plan that will address accidental damage to utilities during construction. This plan will outline contact information to notify the appropriate authorities, directions to the nearest hospital in case of injuries, and a procedure to alert CCAO staff, CDPR staff, local residences and nearby schools in the event that an evacuation becomes necessary.

UT-3: Alert Appropriate Entities of Interruptions in Service
The construction contractor will be require to alert Reclamation and any other applicable entities of any interruptions to existing water, sewer, gas, electricity, or phone services expected to last longer than an hour. All attempts will be made to minimize interruptions in service during construction.

3.10.5 Cumulative Effects

There are no other projects that would affect services or utilities in the project area; therefore there would be no cumulative impacts associated with public services and utilities.

3.11 Public Health and Safety

This section presents the affected environment and environmental consequences for public health and safety, primarily the risks posed by hazardous, toxic, and radiological wastes and fires and the risk to CCAO personnel and visitors.

3.11.1 Regulatory Setting

3.11.1.1 Hazardous, Toxic, and Radiological Wastes

Federal Regulations

Hazardous materials, hazardous substances, and hazardous wastes are regulated under various Federal laws including:

- Resource Conservation and Recovery Act (RCRA, 42 United States Code 692);
- Superfund Amendment Reauthorization Act Title 3 (SARA);
- Hazardous Material Transportation Act (HMTA);
- CWA;
- Comprehensive Environmental Response Compensation and Liability Act (CERCLA, 43 United States Code 9601);
- 40 CFR 260-279 Federal Regulations on hazardous waste management;
- 40 CFR, Section 301 et seq. Emergency Planning and Community Right to Know Act; and
- Toxic Substances Control Act (15 United States Code 2601).

Under RCRA, USEPA regulates the generation, transportation, and disposal of hazardous wastes. The USEPA requires permits for the treatment, storage, and/or disposal of hazardous wastes and tracks the wastes from generation through to disposal. The USEPA delegates some of this authority, such as permitting, to individual states.

The Department of Transportation through the HMTA regulates transportation of hazardous materials. Transporting hazardous materials requires special handling, packaging, placarding, and manifesting of cargoes. Various laws, including the

SARA and HMTA, govern day-to-day management of hazardous materials. These laws define the requirements for storage of hazardous materials, safe handling practices, and employee training.

State Regulations
California State laws that regulate activities involving hazardous materials, hazardous substances, or hazardous waste include:

- Hazardous Waste Control Law (California Health and Safety Code section 25100);
- Title 17, Public Health (California Code of Regulations);
- Title 19, Public Safety (California Code of Regulations);
- Title 22, Division 4.5 - Environmental Health Standards for the Management of Hazardous Waste (California Code of Regulations);
- Title 26, Toxics (California Code of Regulations); and
- California Department of Motor Vehicles, Hazardous Waste and Materials Transportation Requirements (Vehicle Code Section 31303).

The California Department of Toxic Substances Control (DTSC) administers the Federal RCRA for the State, and enforces the California Health and Safety Code. According to the California Government Code (Section 65962.5), DTSC is required to compile and update lists of hazardous materials sites, including land designated as hazardous waste sites and hazardous waste disposals on public lands. The California Government Code (Section 65962.5) also requires the State Water Resources Control Board to compile and update hazardous materials site lists, including underground storage tanks for which an unauthorized release report is filed, and solid waste disposal facilities from which there is a migration of hazardous wastes.

Other agencies that enforce hazards or hazardous materials regulations include the California Highway Patrol, the Regional Water Quality Control Boards, and local fire departments.

3.11.2 Affected Environment

3.11.2.1 Hazardous, Toxic, and Radiological Wastes
Hazardous materials are defined by the State of California as:

> *…any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous materials" include, but are not limited to,*

> *hazardous substances, hazardous waste, and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.*[1]

Hazardous, toxic, or radioactive materials include, but are not limited to, the following:

- Asbestos;
- Construction and demolition debris;
- Drums;
- Landfills or solid waste disposal sites;
- Pits, ponds, or lagoons;
- Wastewater;
- Fill, dirt, depressions, and mounds;
- Underground storage tanks;
- Wastewater treatment plants;
- Stormwater runoff structures; and
- Transformers that may contain polychlorinated biphenyls (PCBs).

In May 2005, the Corps conducted an environmental site assessment (ENSA) for the Folsom Dam Modification Project. The ENSA included records research, interviews, and field surveys within a 1.5-mile radius of the Folsom Dam. Additionally, a search of DTSC and USEPA databases was conducted in December 2008 to determine if any new information was available. Both data searches revealed no HTRW sites within the project area.

Various materials that may be considered hazardous are currently stored within the CCAO maintenance buildings for CCAO O&M activities. Additionally, two above-ground fuel tanks are present in the gravel parking lot that is the proposed location for the new Maintenance Center.

[1] California Health and Safety Code, Division 20, Chapter 6.95, Section 25501(k)

3.11.2.2 Fire

During the dry season (summer months), CCAO Headquarters area is at risk for fires. According to the California Fire Alliance Fire Planning and Mapping website the fire threat for the project area ranges from moderate to high.

3.11.2.3 CCAO Employees and Visitors

The CCAO employs approximately 100 personnel and hosts numerous visitors each day. Work at the CCAO facilities ranges from site security and administration to planning and engineering to site maintenance. Onsite buildings include administration and maintenance facilities. The majority of CCAO employees and visitors use the administration building.

3.11.3 Environmental Consequences

This section presents the environmental consequences of the Proposed Action and the No Action Alternative.

3.11.3.1 No Action Alternative

Under the No Action Alternative, no new construction would occur; therefore, there would be no impacts to public health and safety.

3.11.3.2 Proposed Action

Hazardous, Toxic, and Radiological Waste

Construction of the new CCAO facilities would require the temporary use, storage, and transport of hazardous materials for vehicles and equipment. Their use could result in accidental spills at the site. In addition, all earthwork has the potential to uncover hazardous materials in the soil. Additionally, two above ground fuel tanks located in the area for the proposed Maintenance Center would need to be relocated. Moving these tanks could result in accidental fuel spillage at the site. However, with implementation of Minimization Measure PHS-1, impacts as a result of hazardous, toxic, or radiological waste would be reduced.

Due to the age of the existing CCAO facilities, demolition activities could reveal the presence of lead-based paints or materials containing asbestos. Minimization Measures PHS-1 would include measures to implement in the event that these materials are discovered during demolition and removal activities.

Fire Risk

The area surrounding the project consists of oak woodland and grassland. These areas are at risk for fire, especially during the dry season. Construction activities such as welding or those that may result in accidental spills of flammable liquids could further aggravate the risk of fire. However, with the implementation of Minimization Measure PHS-2, the risk to the public from fire would be reduced.

Safety Risk to CCAO Employees and Visitors
CCAO employees and visitors will be working at and adjacent to the project site during construction. There is the potential for individuals to be harmed during construction by contact with construction equipment, construction materials, or unsafe onsite conditions (e.g. excavated areas). However, with the implementation of Minimization Measure PHS-3, the risk to the public would be reduced.

3.11.4 Minimization Measures

The following minimization measures will be incorporated into the project to reduce or avoid the public health and safety impacts discussed above.

PHS-1: Hazardous Materials Management Plan
Prior to initiation of construction activities, the construction contractor will be required to prepare a Hazardous Material Management Plan for review by Reclamation. The purpose of this plan is to have an established plan of action if hazardous materials are encountered during construction and to establish BMPs to reduce the potential for exposure to hazardous wastes. The plan will:

- Define a protocol for proper handling and disposal of hazardous materials if they are encountered during construction or demolition activities;
- Define a protocol for emergency procedures and handling and disposal of hazardous materials if an accidental spill occurs during construction; and
- Establish BMPs to reduce the potential for spills of toxic substances.

Typical BMPs to reduce the potential for spills may include, but are not limited to:

- Having a spill prevention and control plan with a designated supervisor to oversee and enforce proper spill prevention measures;
- Providing spill response and prevention education for employees and subcontractors;
- Stocking appropriate clean-up materials onsite near material storage, unloading and use areas;
- Designating hazardous waste storage areas away from storm drains or watercourses;
- Minimizing production or generation of hazardous materials onsite or substituting chemicals used onsite with less hazardous chemicals;

- Designating areas for construction vehicle and equipment maintenance and fueling with appropriate control measures for runon and runoff; and

- Arranging for regular hazardous waste removal to minimize onsite storage.

PHS-2: Fire Management Plan
Prior to initiating construction activities, the construction contractor will prepare and implement a Fire Management Plan. The plan will include fire prevention and response methods including fire precaution, presuppression, and suppression measures consistent with the policies and standards of Reclamation and the affected jurisdictions.

PHS-3: Worker Health and Safety Plan
Prior to construction, the construction contractor will prepare a Health and Safety Plan that should, at a minimum, identify:

- All contaminants that could be encountered during excavation activities;

- All appropriate worker, public health, and environmental protection equipment and procedures;

- Emergency response procedures;

- Most direct route to a hospital; and

- Site Safety Officer.

The plan will require documentation that all workers have reviewed and signed the plan and will be made available to all CCAO employees and visitors.

Additionally, in order to maintain public safety during all phases of construction, the plan will address:

- Adequate signage regarding the location of construction sites and warning of the presence of construction equipment;

- Fencing of construction staging areas and of construction areas if dangerous conditions exist when construction is not occurring; and

- Temporary walkways (with appropriate markings, barriers, and signs to safely separate pedestrians from vehicular traffic) and detour signage where an existing sidewalk or path will be closed during construction.

3.11.5 Cumulative Effects

Although construction of new CCAO facilities would lead to public health and safety impacts, these impacts would be reduced by minimization measures discussed above. The New Folsom Bridge Project, the Raw Water Pipeline Bypass Project, and the Folsom Dam Safety and Flood Damage Reduction Project would also have the potential to impact public health and safety. Although the projects are occurring concurrently, all will employ minimization measures to reduce public health and safety risks and hazardous materials impacts. Additionally, all agencies involved in these projects will be coordinating schedules and construction routes to avoid conflicts. Because all of the projects will minimize impacts as needed and required, there would be no cumulatively considerable impacts to public health and safety.

3.12 Minimization Measures Incorporated into the Project

Based on the above analysis, the Minimization Measures listed in Table 3.12-1 will be incorporated into the project to reduce or avoid all project-related environmental consequences.

Table 3.12-1. Summary of Environmental Consequences and Minimization Measures

M = Minimal Impact - No Minimization Measures Required
MWM = Minimal Impact With Minimization Measures
NI = No Impact
ADT = average daily trips
BMP = best management practices
CCAO = Central California Area Office
CDFG = California Department of Fish and Game
HTRW = hazardous, toxic, and radiological wastes
LOS = Level of Service
SMAQMD = Sacramento Metropolitan Air Quality Management District
SWPPP = Storm Water Pollution Prevention Plan
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Environmental Consequence	Significance	Minimization Measure
Water Resources		
Storm water run-off from the construction site could result in water quality impacts to adjacent water bodies.	MWM	***WQ-1: NPDES Construction Permit and SWPPP*** The Construction Contractor would be required to obtain a State General Permit for Storm Water Discharges Associated with Construction Activity according to the National Pollutant Discharge Elimination System program. This would entail filing a Notice of Intent with the Central Valley Regional Water Quality Control Board (CVRWQCB) and development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would describe best management practices that would be implemented to contain stormwater runoff on-site and to reduce erosion and sedimentation.
Potential impacts to jurisdictional wetlands and other waters of the U.S.	MWM	***WQ-2: Comply with all Clean Water Act Requirements, as Appropriate*** Prior to project construction, Reclamation will comply with all Clean Water Act Section 404 and 401 requirements, as appropriate. If necessary, a General Permit will be obtained from the Corps for impacts to jurisdictional waters of the U.S and a 401 water quality certification will be obtained from the CVRWQCB.
Air Quality		
Exceed daily or annual emissions thresholds of SMAQMD during construction and operation of the project.	M	No Minimization Measures required.
Exceed de minimis thresholds.	M	No Minimization Measures required.
Biological Resources		
Loss of vegetation during construction activities.	MWM	***BIO-1: Tree Protection and Re-vegetation*** In order to minimize direct impacts to trees located within the construction area, tree protection measures would be implemented prior to construction and re-vegetation would occur immediately following construction. Tree protection measures would reduce impacts to trees during construction and may include the following measures:

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Environmental Consequence	Significance	Minimization Measure
		1. Protective fencing will be installed at the Root Protection Zone of trees that would be directly impacted by construction. The Root Protection Zone is defined as the area within a circle with a radius equal to the greatest distance from the trunk to any overhanging foliage in the tree canopy. Posts will be placed where they will not impact tree roots. 2. No construction staging or disposal of construction materials or byproducts including but not limited to paint, plaster, or chemical solutions will be allowed in the Root Protection Zone. 3. All work conducted in the ground within the Root Protection Zone of any protected tree will be accomplished with hand tools to the extent feasible. 4. "Natural" or pre-construction grade will be maintained in the Root Protection Zone. 5. In areas where the grade around the protected tree will be lowered, some root cutting may be unavoidable. Cuts will be clean and made at right angles to the roots. When practical, roots will be cut back to a branching lateral root. Any necessary root pruning to be conducted by qualified personnel. Cut roots subject to open air conditions longer than a few hours should be covered with burlap and maintained in a moist condition until covered by soil. 6. Root damage and soil compaction caused by heavy equipment traversing the Root Protection Zone in locations where it is unavoidable will be mitigated by applying plywood or mulch in the Root Protection Zone to avoid soil compaction. 7. All pruning will be conducted by a certified arborist or other qualified contractor. Once construction has been completed, re-vegetation will occur to restore vegetated areas disturbed during construction to pre-construction conditions, to the extent feasible. Native plant species used for revegetation will be selected based on existing vegetation in the project area.
Potential impacts to wildlife and vegetation during construction.	MWM	***BIO-2: Nesting Migratory Birds, Including Raptors*** To the extent possible, removal of trees and potential bird breeding habitat in the project area would occur between September 1 and January 31, when birds are not expected to be nesting, in order to comply with the Migratory Bird Treaty Act. Prior to any tree removal and construction, a qualified biologist or ornithologist would conduct preconstruction field surveys in and adjacent to the project area for nesting migratory birds, including raptors. Surveys would be conducted during

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Environmental Consequence	Significance	Minimization Measure
		the season immediately preceding tree removal and grading operations when birds are building and defending nests or when young are still in nests and dependent on the parents. If no nests are found during the surveys, tree removal and grading may proceed. If nests are found, construction activities including tree removal shall not be conducted within a buffer zone designated by USFWS or the CDFG around the nest(s) until after the breeding season (February to the end of August).
Potential impacts to wildlife and vegetation during construction.	MWM	***BIO-3: Biological Resources Awareness Training*** Prior to construction, including clearing of vegetation and grading, mandatory training regarding the biological resources present at the Proposed Action site will be provided to all construction personnel. The training will be developed and provided by a qualified biologist familiar with the sensitive species that may occur in the project area and will provide educational information on the natural history of these species, reporting sightings, required mitigation measures to avoid impacts, and penalties for not complying with biological mitigation requirements. All project personnel will be required to receive training before they start working.
Potential impacts to valley elderberry longhorn beetle.	MWM	***BIO-4: Elderberry Mitigation*** The following measures are subject to and contingent upon a Section 7 consultation with the USFWS. Reclamation will implement the following measures proposed in the USFWS 1999 VELB Conservation Guidelines (VELB Guidelines) (USFWS 1999). Where possible, complete avoidance of elderberry shrubs would be enforced. Avoidance measures would include the establishment and maintenance of a 100 foot buffer zone surrounding elderberry shrubs containing stems measuring 1.0 inches or greater in diameter at ground level. The proposed staging area and access roads contain elderberry shrubs that would be within 20 feet of project activities; however; these shrubs are currently exposed to ongoing O&M activities by Reclamation that are similar to the Proposed Action. All elderberry shrubs within 20 feet of construction activities will be flagged or fenced for easy identification. Construction crews will be briefed on the need to avoid elderberry shrubs and no vehicles will enter within the 20 foot buffer zone. Additionally, the following dust control measures will be implemented:

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Environmental Consequence	Significance	Minimization Measure
		• Water or otherwise stabilize the soil prior to ground disturbance; • Cover haul trucks; • Employ speed limits on unpaved roads; • Apply dust suppressants; • Physically stabilize soil with vegetation, gravel, recrushed/recycled asphalt or other forms of physical stabilization; • Reduce number of vehicle trips; • Install one or more grizzlies, gravel pads, and/or wash down pads adjacent to the entrance of a paved public roadway to control carry-out and trackout; • Minimize vegetation clearing; and • Revegetate post-construction. Elderberry shrubs that cannot be avoided would be transplanted if technically feasible. All elderberry shrubs containing stems measuring 1.0 inch or greater in diameter at ground level would be transplanted to a USFWS approved conservation area between November 1 and February 15. Each elderberry shrub with stem measuring 1.0 inch or greater in diameter at ground level that is adversely affected would be compensated with elderberry seedlings or cuttings in accordance with the VELB Guidelines Elderberry shrubs that cannot be feasibly transplanted will be compensated at a ratio two-times the normal amount. A minimum survival rate of at least 60 percent of the elderberry shrubs would be maintained throughout the monitoring period. If survival drops below this level, additional seedlings would be planted. Stock for plantings would be obtained from local sources. Native plants associated with elderberry shrubs at the project area or similar reference sites would be planted in accordance with the VELB Guidelines. A minimum survival rate of at least 60 percent of the associated native plants would be maintained throughout the monitoring period. If survival drops below this level, additional seedlings or cuttings would be planted. Only stock from

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Environmental Consequence	Significance	Minimization Measure
		local sources would be used, unless such stock is not available, per the VELB Guidelines.
Potential impacts to California red-legged frog during construction.	MWM	***BIO-5: Conduct California Red-Legged Frog Surveys*** Prior to project construction, a USFWS-approved biologist would conduct surveys to ensure no California red-legged frogs are present within or near the project area. If any California red-legged frogs are observed within or near the project area, Reclamation will reconsult with USFWS.
Potential impacts to special status birds and bats.	MWM	***BIO-6: Conduct Nesting Bird Surveys, Roosting Bat Surveys, and Establish No-Disturbance Buffers, as Appropriate, for Special-Status Species*** If construction activities must occur during the breeding season for special-status birds and/or bats (February 1–August 31), the following measures will be implemented: If no active nests or roosts are detected during surveys, then no additional minimization measures are required. If special-status birds or bats are found in the construction area or in the adjacent surveyed area, a no-disturbance buffer will be established around the nesting/roosting location to avoid disturbance or destruction of the nest site/roost site until after the breeding season or after a wildlife biologist determines that the young have fledged (usually late-June through mid-July). The extent of these buffers will be determined by a wildlife biologist in consultation with the applicable resource agencies (i.e., USFWS and/or CDFG) and will depend on the level of noise or construction disturbance, line of site between the nest/roost and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. These factors will be analyzed and used by a qualified wildlife biologist to assist the USFWS and/or CDFG in making an appropriate decision on buffer distances.
Potential impacts to special status plants.	MWM	***BIO-7: Conduct Brandagee Clarkia Surveys*** Prior to project construction, a qualified biologist would conduct surveys to ensure no Brandagee clarkia plants are present within or near the project area.
Geology and Soils		
Loss of topsoil during clearing and grading activities.	M	No Minimization Measures required.

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Environmental Consequence	Significance	Minimization Measure
Temporary erosion could occur in construction areas that have been cleared and graded.	MWM	See Minimization Measure WQ-1 under Water Resources.
Potential impacts associated with naturally occurring asbestos.	NI	No Minimization Measures required.
Visual Resources		
Temporary construction-related impacts.	M	No Minimization Measures required.
Permanent alteration to existing visual character of the area.	M	No Minimization Measures required.
Transportation and Circulation		
Traffic impacts to Level of Service (LOS) and average daily trips (ADT) during peak construction.	M	No Minimization Measures required.
Noise		
Temporary noise impacts from construction activities.	M	No Minimization Measures required.
Temporary noise impacts from construction traffic.	M	No Minimization Measures required.
Cultural Resources		
Impacts to known cultural resources within the area of potential affect.	NI	No Minimization Measures required.
Impacts to unknown cultural resources	NI	No Minimization Measures required.
Public Services and Utilities		
Impact existing public services.	NI	No Minimization Measures required.
Impact existing buried utilities or require relocation of utilities, the result of which could cause	MWM	***UT-1: Locate Existing Utilities Prior to Construction*** Prior to construction, existing utility providers will be contacted to obtain current information on any utilities in the area. Utilities will be verified using field surveys. All utilities will be marked with

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Environmental Consequence	Significance	Minimization Measure
interruptions in services or pose health risks to construction workers and CCAO staff.		white paint or other suitable markings to alert workers of their locations. Hand tools will be used when digging is required in close proximity to any buried utilities. ***UT-2: Emergency Action Plan for Accidental Damage to Utilities*** The construction contractor will be required to develop and implement an emergency action plan that will address accidental damage to utilities during construction. This plan will outline contact information to notify the appropriate authorities, directions to the nearest hospital in case of injuries, and a procedure to alert CCAO staff, CDPR staff, local residences and nearby schools in the event that an evacuation becomes necessary. ***UT-3: Alert Appropriate Entities of Interruptions in Service*** The construction contractor will be require to alert Reclamation and any other applicable entities of any interruptions to existing water, wastewater, gas, electricity, or phone services expected to last longer than an hour. All attempts will be made to minimize interruptions in service during construction.
Increase the demand for utilities or services.	M	No Minimization Measures required.
Increase the amount of solid waste generated during construction and operation.	M	No Minimization Measures required.
Public Health and Safety		
Impacts associated with hazardous, toxic, and radiological wastes.		***PHS-1: Hazardous Materials Management Plan*** Prior to initiation of construction activities, the construction contractor will be required to prepare a Hazardous Material Management Plan for review by Reclamation. The purpose of this plan is to have an established plan of action if hazardous materials are encountered during construction and to establish BMPs to reduce the potential for exposure to hazardous wastes. The plan will: • Define a protocol for proper handling and disposal of hazardous materials if they are encountered during construction or demolition activities; • Define a protocol for emergency procedures and handling and disposal of hazardous

Table 3.12-1. Summary of Environmental Consequences and Minimization Measures

M = Minimal Impact - No Minimization Measures Required
MWM = Minimal Impact With Minimization Measures
NI = No Impact
ADT = average daily trips
BMP = best management practices
CCAO = Central California Area Office
CDFG = California Department of Fish and Game
HTRW = hazardous, toxic, and radiological wastes
LOS = Level of Service
SMAQMD = Sacramento Metropolitan Air Quality Management District
SWPPP = Storm Water Pollution Prevention Plan
VELB = valley elderberry longhorn beetle
USFWS = U.S. Fish and Wildlife Service

Environmental Consequence	Significance	Minimization Measure
		materials if an accidental spill occurs during construction; and • Establish BMPs to reduce the potential for spills of HTRW. Typical BMPs to reduce the potential for spills may include, but are not limited to: • Having a spill prevention and control plan with a designated supervisor to oversee and enforce proper spill prevention measures; • Providing spill response and prevention education for employees and subcontractors; • Stocking appropriate clean-up materials onsite near material storage, unloading and use areas; • Designating hazardous waste storage areas away from storm drains or watercourses; • Minimizing production or generation of hazardous materials onsite or substituting chemicals used onsite with less hazardous chemicals; • Designating areas for construction vehicle and equipment maintenance and fueling with appropriate control measures for runon and runoff; and • Arranging for regular hazardous waste removal to minimize onsite storage.
Increase the risk for fires.	MWM	***PHS-2: Fire Management Plan*** Prior to initiating construction activities, the construction contractor will prepare and implement a Fire Management Plan. The plan will include fire prevention and response methods including fire precaution, presuppression, and suppression measures consistent with the policies and standards of Reclamation and the affected jurisdictions.
Create a safety risk to CCAO employees or visitors during construction.	MWM	***PHS-3: Worker Health and Safety Plan*** Prior to construction, the construction contractor will prepare a Health and Safety Plan that should, at a minimum, identify: • All contaminants that could be encountered during excavation activities; • All appropriate worker, public health, and environmental protection equipment and procedures; • Emergency response procedures;

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Environmental Consequence	Significance	Minimization Measure
		• Most direct route to a hospital; and • Site Safety Officer. The plan will require documentation that all workers have reviewed and signed the plan and will be made available to all CCAO employees and visitors. Additionally, in order to maintain public safety during all phases of construction, the plan will address: • Adequate signage regarding the location of construction sites and warning of the presence of construction equipment; • Fencing of construction staging areas and of construction areas if dangerous conditions exist when construction is not occurring; and • Temporary walkways (with appropriate markings, barriers, and signs to safely separate pedestrians from vehicular traffic) and detour signage where an existing sidewalk or path will be closed during construction.

CDPR = California Department of Parks and Recreation

Chapter 4
Consultation and Coordination

This section presents the agencies consulted during development of the document, the distribution list for the document, and a discussion on public involvement. Copies of consultation letters can be found at the end of this Chapter.

4.1 Consultation and Coordination

The ESA requires Federal agencies to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any listed species (according to the lists maintained by the USFWS and the NMFS) or result in the destruction or adverse modification of habitat critical to such species' survival. To ensure against jeopardy, each Federal agency must consult with the USFWS and/or NMFS.

Reclamation consulted with the USFWS during preparation of this document. Consultation involved determination of mitigation requirements for the valley elderberry long-horn beetle, suspected to be present due to the presence of its host plant species, and the California red-legged frog, not known to be present, but that would be subject to further consultation should the species be found during pre-construction surveys. A copy of the letter sent by Reclamation to initiate Section 7 consultation with USFWS can be found at the end of this chapter. A biological opinion for the project was issued by USFWS on January 27, 2009.

The NHPA of 1966, as amended (16 USC 470 *et seq*), requires that Federal agencies give the Advisory Council on Historic Preservation an opportunity to comment on the effects of an undertaking on historic properties, properties that are eligible for inclusion in the National Register of Historic Places. The 36 CFR Part 800 regulations implement Section 106 of the NHPA. Compliance with Section 106 follows a series of steps that are designed to identify interested parties, determine the APE, conduct cultural resource inventories, determine if historic properties are present within the APE, and assess effects on any identified historic properties.

Reclamation sent a Section 106 consultation letter to the California SHPO on December 22, 2008, identifying the fifteen cultural resources within the APE and evaluating them for the National Register. Reclamation determined that none of the resources were eligible for the National Register. Reclamation received a letter of concurrence from SHPO on January 6, 2009. A copy of the Section 106 consultation letter to SHPO and the concurrence letter from SHPO can be found at the end of this chapter.

The CWA requires that a permit be obtained from the Corps when discharge of dredged or fill material into wetlands and waters of the United States occurs. Section 404 of the CWA requires the Corps to issue individual and general permits for such activities. In December 2008, Reclamation initiated consultation with the Corps for the CCAO BRP. A formal wetland delineation was completed by CDM on January 27, 2009. The wetland delineation will be submitted to the Corps in order to verify the presence of jurisdictional wetlands or waters present within the project area. Reclamation expects that the Corps will assume jurisdiction over an existing drainage ditch, and will therefore be required obtain a Nationwide 404 Permit for the project. Reclamation will comply with all conditions of the permit. A copy of CWA Section 404 initial consultation that has occurred with the Corps is attached at the end of this chapter.

Reclamation's Mid-Pacific Region ITA Coordinator Patricia Rivera has reviewed the CCAP BRP and determined that there are no ITAs within the project area and no ITAs would be affected by the project. A copy of this communication is provided at the end of this chapter.

4.2 Distribution List

This document is available to the public upon request. Copies of this EA have been provided to USFWS, the Corps, and CDPR for review. A hard copy of this EA can be found at the following libraries:

- Granite Bay Public Library, 6475 Douglas Boulevard, Granite Bay, CA 95746
- Folsom Public Library, 300 Persifer Street, Folsom, CA 95630

This document is also available online at:

http://www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=3503

4.3 Public Involvement

The draft EA and draft FONSI for the CCAO BRP were distributed on January 6, 2009 for 30 days of public review and comment. A press release was issued by Reclamation to alert the public and other interested parties of the review period for the document and the document was posted to the Reclamation website. The comment period for the draft EA and draft FONSI was closed on February 5, 2009. No comments were received.

Endangered Species Act Section 7 Consultation